

- Group I: Claims 50 and 51, drawn to a room containing electronic equipment;
- Group II Claims 55 and 56, drawn to a device comprising a composite;
- Group III Claims 57-76 [75], drawn to a layered article; and
- Group IV Claims 23-49 and 52-54, drawn to a composite comprising nanotubes.

Applicant confirms the telephone election of Group IV, claims 23-49 and 52-54, with traverse. As also stated in the Office Action, claims 55-75 will be rejoined upon request if the claims contain allowable subject matter.

As recited under M.P.E.P. 803, restriction is appropriate only when the groups can be shown to be distinct and there would be a “serious burden” placed on the Examiner to examine more than one group of claims.

There are two basic criteria for applying a restriction requirement. The invention must fall into one or more of the standards set forth in the Manual of Patent Examining Procedure (“MPEP”), and there must be a serious burden placed on the examiner to examine all claims together.

The comments with respect to the restriction relate only to the first criteria, application of the rules of the MPEP. No comments whatsoever are made with respect to the second criteria, the imposition of a serious search burden. Absent any comments, the burden to show the appropriateness of this restriction still rests with the U.S. Patent and Trademark Office (“PTO”). As that burden has not been met, the requirement must be withdrawn. In addition, all claims are directed to nanotubes and, as such, a complete search of the subject matter would not impose a serious burden on the examiner.

Thus, it is believed to be clear that examination of all claims would not impose a serious burden on the examiner and it is requested that the restriction be withdrawn.

Remarks regarding Double Patenting

In paragraph 7 of the Office Action, claims 23-75 stand rejected as alleged obviousness-type double patenting. Applicant presumes that the rejection applies only to

elected claims 23-49 and 52-54. Applicant respectfully requests that the Examiner reserve this rejection until allowable subject matter has been indicated.

Remarks regarding 35 U.S.C. § 102(e)

In paragraph 9 of the Office Action, claims 23, 30-34 and 44 stand rejected, under 35 U.S.C. § 102(e), as allegedly anticipated by U.S. Patent No. 6,280,677 to Jakobson (the Jakobson patent). Applicant respectfully traverses the rejection.

37 C.F.R. § 1.131 recites, in part, that "[t]he effective date of a U.S. patent . . . is the earlier of its publication date or date that it is effective as a reference under 35 U.S.C. 102(e)."

In this connection, the Jakobson patent was issued from Application No. 09/186,396 (the Jakobson application) filed November 4, 1998, which takes priority from Provisional Application No. 60/064,539 filed November 5, 1997 (the Jakobson provisional application).

Presumably, therefore, the rejection presumes that Jakobson is effective as a reference under 35 U.S.C. 102(e) as of November 5, 1997, which is the filing date of the Jakobson provisional application.

However, to rely on the filing date of the Jakobson provisional application, the Jakobson provisional application must support the claimed invention. See M.P.E.P. § 2136.03 ("In order to carry back the 35 U.S.C. 102(e) critical date of the U.S. patent reference to the filing date of a parent application, the parent application must (A) have a right of priority to the earlier date under 35 U.S.C. 120 and (B) support the invention claimed as required by 35 U.S.C. 112, first paragraph.").

Here, the claims of the instantly elected invention comprise, *inter alia*, the following independent claims 23, 42, 44, 47, 49, and 52:

23. A composite comprising nanotubes that have an aspect ratio which provides said composite with electromagnetic shielding.

42. A composite comprising nanotubes that are substantially not in contact with each other, other than along their longitudinal areas.

44. A composite comprising nanotubes effectively oriented to absorb electromagnetic radiation.

47. A composite comprising nanotubes effectively oriented for absorbing electromagnetic radiation wherein said composite generates heat upon exposure to said electromagnetic radiation.

49. A composite comprising nanotubes wherein application of a shearing force to the nanotubes enhances shielding or absorption of electromagnetic radiation.

52. A composite comprising nanotubes effectively oriented to provide low radar observability to an object shielded with said composite.

Therefore, the Yakobson provisional application must support the above independent claims in order to rely on the filing date of the Yakobson provisional application as an effective date as a reference under 35 U.S.C. § 102(e). Respectfully, Applicant submits that the Yakobson provisional does not support the instant claims.

Specifically, the Yakobson provisional does not relate at all to the claimed composites comprising nanotubes, much less to composites comprising nanotubes which provide electromagnetic shielding. For example, attached is a copy of the Yakobson provisional application. The Yakobson provisional application discusses modifications of structural properties of individual carbon nanotubes by tension and thermal load and the effects on properties. However, this does not relate at all to composites comprising nanotubes which provide electromagnetic shielding. In particular, Yakobson does not discuss any effects of modifying the structure of individual carbon nanotubes, such as those specific to composite electrical properties which relate to aspect ratio or electromagnetic shielding.

Therefore, the rejection cannot carry back the 35 U.S.C. 102(e) critical date of Yakobson patent to the Yakobson provisional application since the Yakobson provisional application does not support the claims of the instant application, notwithstanding any teaching in the Yakobson patent. Accordingly, the Yakobson patent is effective as a reference under 35 U.S.C. § 102(e) as of November 4, 1998, the filing date of the Yakobson application.

In this connection, Applicant submits the attached Declaration under 37 C.F.R. § 1.131 by Paul J. Glatkowski which shows that Applicant conceived and reduced to practice a composite having nanotubes which provides the composite with electromagnetic shielding prior

to November 4, 1998, and therefore prior to the filing date of the Yakobson application. Submission of the Declaration does not constitute acquiescence in the statements set forth in the rejection, but is done solely to expedite the application to issuance.

In the Declaration, Applicant submits a copy of a Test Report dated May 1, 1998 which shows shielding effectiveness data between 20 kHz and 1.5 GHz on PET-1.5 wt.% nanotube composite plaques. This data was normalized for a thickness of 1 mm and is shown in Table 2. The required shielding effectiveness per MIL-STD-188-125A is 100 dB. However, Table 2 demonstrates a shielding effectiveness of 182 dB at a nanotube loading level of only 1.5 wt%, thus indicating that the composite clearly offers both electromagnetic shielding and low observability.

Therefore, Applicant respectfully submits that the evidence set forth in the Declaration establishes reduction to practice prior to November 4, 1998, the effective date of the Yakobson application. Accordingly, reconsideration and withdrawal of the rejection under § 102(e) are respectfully requested.

Remarks regarding 35 U.S.C. § 103(a)

In paragraph 12 of the Office Action, claims 40, 41, 46-48 and 52 stand rejected, under 35 U.S.C. § 103(a), as allegedly obvious over Yakobson in view of U.S. Patent No. 6,426,134 to Lavin et al. (Lavin). Applicant respectfully traverses the rejection.

Based on the foregoing, Applicant has overcome Yakobson with the attached Declaration under 37 C.F.R. § 1.131. Applicant respectfully submits that Lavin fails to remedy the deficiencies of Yakobson since Lavin fails to teach all the elements of the instant invention. Nonetheless, Applicant conceived and reduced to practice the instant invention prior to the earliest effective filing date of Lavin, as evidenced by the instant Declaration under 37 C.F.R. § 1.131.

Accordingly, reconsideration and withdrawal of the rejection under § 103(a) are respectfully requested.

Remarks regarding New Claims 76-103

Applicant respectfully submits that new claims 76-103 are further patentable in view of the cited prior art, including U.S. Patent No. 4,663,230.

Conclusion

In view of the foregoing remarks, reconsideration of the application and indication of allowable subject matter are requested.

Applicant respectfully requests rejoinder of claims 55-75, as indicated on page 4 of the Office Action (Paper No. 9).

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the number below.

Respectfully submitted,
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Date: November 7, 2002

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Director is hereby authorized to charge Deposit Account no. 08-1641 for any such fees; and Applicants hereby petition for any needed extension of time.